Recombinant Mouse PDGF Rβ His-tag

Catalog Number: 10066-PR

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse PDGF R beta protein Leu32-Lys530, with a C-terminal 6-His tag Accession # P05622
N-terminal Sequence Analysis	Leu32
Predicted Molecular Mass	57 kDa

SPECIFICATIONS

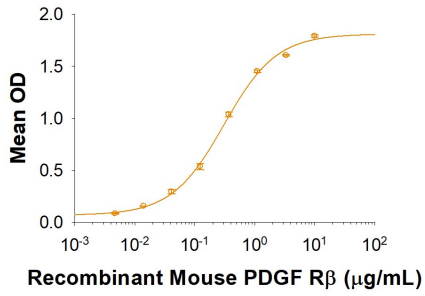
SDS-PAGE	89-103 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Rat PDFG-BB (Catalog # 520-BB/CF) is immobilized at 2 µg/mL (100 µL/well), the concentration of Recombinant Mouse PDGF Rβ that produces 50% of the optimal binding response is 0.25-1.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

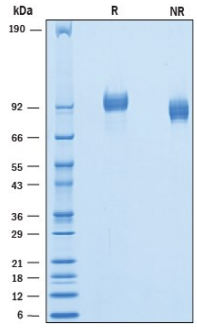
DATA

Binding Activity



When Recombinant Rat PDGF-BB Homodimer (Catalog # 520-BB/CF) is coated at 2 µg/mL (100 µL/well), Recombinant Mouse PDGF Rβ (Catalog # 10066-PR) binds with an ED_{50} of 0.25-1.5 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse PDGF Rβ was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 89-103 kDa.

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BACKGROUND

The platelet-derived growth factor (PDGF) family consists of proteins derived from four genes (PDGF-A, -B, -C, and -D) that form disulfide-linked homodimers (PDGF-AA, -BB, -CC, and -DD) and a heterodimer (PDGF-AB) (1, 2). These proteins regulate diverse cellular functions by binding to and inducing the homo- or hetero-dimerization of two receptors (PDGF Rα and Rβ). Whereas α/α homo-dimerization is induced by PDGF-AA, -BB, -CC, and -AB, α/β hetero-dimerization is induced by PDGF-AB, -BB, -CC, and -DD, and β/β homo-dimerization is induced only by PDGF-BB, and -DD (1 - 4). Both PDGF Rα and Rβ are members of the class III subfamily of receptor tyrosine kinases (RTK) that also includes the receptors for M-CSF, SCF and Flt3-ligand. All class III RTKs are characterized by the presence of five immunoglobulin-like domains in their extracellular region and a split kinase domain in their intracellular region. Ligand-induced receptor dimerization results in autophosphorylation in trans resulting in the activation of several intracellular signaling pathways that can lead to cell proliferation, cell survival, cytoskeletal rearrangement, and cell migration. Many cell types, including fibroblasts and smooth muscle cells, express both the α and β receptors. Others have only the α receptors (oligodendrocyte progenitor cells, mesothelial cells, liver sinusoidal endothelial cells, astrocytes, platelets and megakaryocytes) or only the β receptors (myoblasts, capillary endothelial cells, pericytes, T cells, myeloid hematopoietic cells and macrophages). A soluble PDGF Rα has been detected in normal human plasma and serum as well as in the conditioned medium of the human osteosarcoma cell line MG-63 (5). Both the recombinant mouse and human soluble PDGF Rα bind PDGF with high affinity and are potent PDGF antagonists.

References:

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2. Ostman, A. and A.H. Heldin (2001) Advances in Cancer Research **80**:1.
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5. Tiesman, J. and C.E. Hart (1993) J. Biol. Chem. **5**:9621.

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